

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/CA 03/01436

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E21B7/28 E21B17/10 E21B7/04 F16L58/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

-IPC 7 E21B F16L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched.

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal WPT Data PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
X	GB 2 124 325 A (RYAN AND SONS LTD D J;BRITISH GAS CORP) 15 February 1984 (1984-02-15) page 1, line 102-105 page 1, line 117 -page 2, line 2 page 2, line 17-24 figure 1		1,5, 17-23
Y	---		2-4,6,7, 37,38
Y	US 4 319 648 A (CHERRINGTON MARTIN O) 16 March 1982 (1982-03-16) the whole document		2,3

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

• Special categories of cited documents:

- A** document defining the general state of the art which is not considered to be of particular relevance
- E** earlier document but published on or after the international filing date
- L** document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- O** document referring to an oral disclosure, use, exhibition or other means
- P** document published prior to the international filing date but later than the priority date claimed

- *T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *& document member of the same patent family

Date of the actual completion of the international search:

Date of mailing of the international search report

7 June 2004

17/06/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

Schouten, A

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 03/01436

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 166 065 A (WEBCO LTD) 30 April 1986 (1986-04-30) , sentences 25-39 abstract figure 1 ---	24, 25, 29, 36
Y		4, 6, 37, 38
X	US 2 158 771 A (BECKWITH LAWTON B) 16 May 1939 (1939-05-16) column 1, line 12-33 column 2, line 27-51 figures 1,2 ---	24-26, 36
Y		7
A	US 5 621 025 A (TRAN BANG T ET AL) 15 April 1997 (1997-04-15) column 5, line 35-54 -----	24

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 03/01436

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
GB 2124325	A 15-02-1984	CA	1191356 A1	06-08-1985
		CA	1195128 A2	15-10-1985
		CA	1204294 C	13-05-1986
		CA	1204294 A2	13-05-1986
		DE	3176344 D1	10-09-1987
		DE	3176812 D1	25-08-1988
		EP	0053480 A1	09-06-1982
		EP	0094694 A2	23-11-1983
		GB	2092701 A ,B	18-08-1982
		GB	2152624 A ,B	07-08-1985
		IE	52281 B1	02-09-1987
		IE	52282 B1	02-09-1987
		IE	52280 B1	02-09-1987
		JP	1303531 C	28-02-1986
		JP	57120789 A	27-07-1982
		JP	60027873 B	01-07-1985
		US	4505302 A	19-03-1985
		US	4738565 A	19-04-1988
		US	4720211 A	19-01-1988
US 4319648	A 16-03-1982	AU	540641 B2	29-11-1984
		AU	6263480 A	09-04-1981
		BE	885348 A1	16-01-1981
		CA	1140106 A1	25-01-1983
		CA	1151146 A2	02-08-1983
		CA	1151147 A2	02-08-1983
		DE	3035876 A1	09-04-1981
		ES	8200430 A1	16-01-1982
		ES	8204491 A1	01-08-1982
		FR	2477216 A1	04-09-1981
		GB	2061357 A ,B	13-05-1981
		GB	2103690 A ,B	23-02-1983
		GB	2131066 A ,B	13-06-1984
		IT	1129273 B	04-06-1986
		JP	1371534 C	07-04-1987
		JP	56055699 A	16-05-1981
		JP	61040840 B	11-09-1986
		KR	8400143 B1	20-02-1984
		MX	151874 A	17-04-1985
		NL	8005279 A ,B	26-03-1981
		NO	802813 A	25-03-1981
		US	4402372 A	06-09-1983
		US	4401170 A	30-08-1983
		US	RE32267 E	21-10-1986
GB 2166065	A 30-04-1986	NONE		
US 2158771	A 16-05-1939	NONE		
US 5621025	A 15-04-1997	US	5464886 A	07-11-1995
		US	5573855 A	12-11-1996
		US	5580659 A	03-12-1996
		US	5567528 A	22-10-1996
		US	5580611 A	03-12-1996